

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Application of : FIENBLIT et al.

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Serial No.: 10/673,529 : Group Art Unit: 2162

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Filed : September 29, 2003 : Examiner: Giovanna B. Colan

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For : ASYNCHRONOUS DATA MIRRORING WITH LOOK-AHEAD  
SYNCHRONIZATION RECORD

Examiner Colan,

As per our conversation, herein please find our suggested  
amendment to overcome the 101 rejection.

33. (Currently amended) A computer software product for use in a data storage system including primary and secondary storage subsystems, which include respective first and second control units and respective first and second non-volatile storage media, the product comprising a ~~computer-readable~~ non-volatile storage medium in which program instructions are stored, which instructions, ~~when read by the first and second control units,~~ cause the first control unit to receive data from a host processor for writing to a specified location, and to store the data in the specified location on the first non-volatile storage media while copying the data to the second storage subsystem, and cause the second control unit to store the data in the specified location on the second non-volatile storage media so as to create a mirror on the secondary storage subsystem of the data received by the primary storage subsystem,

wherein the instructions further cause the first control unit to maintain a record of locations to which

data are expected to be written on the primary storage subsystem by the host processor, as indicated by a predetermined prediction algorithm based on the locations to which the data have already been written, and upon receiving the data from the host processor, to update the record using the prediction algorithm so that the record includes both the specified location and one or more further locations that have not yet been specified by the host processor if the specified location is not included in the record, and to output an acknowledgement to the host processor to indicate that the data have been stored in the data storage system after receiving the data and after updating the record if the specified location was not included in the record prior to updating the record, and

wherein upon recovery of the system from a failure of the primary storage subsystem, the instructions cause the second control unit to convey, responsively to the record, a portion of the data from the second non-volatile storage media to the primary storage subsystem for storage on the first non-volatile storage media.

Respectfully submitted,

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